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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,888	01/14/2002	Raymond F. Gesteland	T9479.B	5912
20450	7590	08/11/2006	EXAMINER DEJONG, ERIC S	
ALAN J. HOWARTH P.O. BOX 1909 SANDY, UT 84091-1909			ART UNIT 1631	
PAPER NUMBER				

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/050,888

Applicant(s)

GESTELAND ET AL.

Examiner

Eric S. DeJong

Art Unit

1631

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 19 July 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 6 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☒ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: see continuation sheet. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 1, 2, 4, 8, 10, 12, 13, 17, 18, 20, 22, 23, 25, 29, 31, 34, 38, 39, 41 and 43.
Claim(s) withdrawn from consideration: 3, 5-7, 9, 11, 14-16, 19, 21, 24, 26-28, 30, 32, 35 and 44-46.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see continuation sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.


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Continuation of Item 3. NOTE:

Applicants claims set filed with the proposed After Final amendment contains new claims 65 and 66 that recite the new limitation of "said training comprises training with direct activity data" and is drawn to subject matter that was not present in previous versions of the claims. As such, newly proposed claims 65 and 66 if entered would require further search and/or consideration.

Continuation of Item 11. NOTE:

The objection to the disclosure for containing embedded hyperlinks and/or other forms of browser executable code is maintained for reasons of record.

If entered, applicants proposed amendments to the specification would be sufficient to overcome the instant objection.

The rejection of claims 18 and 39 under 35 USC 112, second paragraph as being indefinite is maintained for reasons of record. If entered, applicants proposed claim amendments would be sufficient to overcome the instant rejection.

The rejection of claims 1,2,4,8,10,12,13,17,18,20,22,23,25,29,31,34,38,39,41 and 43 under 35 USC § 103(a) as being unpatentable over Mateeva et al. in view of Wu et al. is maintained for reasons of record.

In regards to the rejection of claims un35 USC § 103(a) as being unpatentable over Mateeva et al. in view of Wu et al., applicants argue that claims 4, 13, 20, 25, 34, and 41 were not previously rejected under 103(a) in the non-final Office action mailed 05/24/2005, and therefore the rejection of claims 4, 13, 20, 25, 34, and 41 under 35 USC § 103(a) was newly applied in the Final Office action, mailed 02/03/2006.

In response it is noted that applicants response filed 11/28/2005 contained amendments to claims 4, 13, 20, 25, 34, and 41. As such, the rejection claims 4, 13, 20, 25, 34, and 41 was necessitated by amendments made to the instant claims by applicants.

Applicants further argue that the combination of Mateeva et al. and Wu et al. fails to show each and every limitation of any claim. Applicants recite the claimed limitations drawn to (1) mapping sequence motifs, (2) training an artificial neural network, (3) mapping sequence motifs, and (4) obtaining output of predicted antisense activity as recited in claim 1.

In response, it is noted that applicants arguments amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Applicants argument only recites claim limitations without further presenting arguments directed to the merits of the rejection nor do applicants argue point to specific limitations within the claim that are not taught or obvious variants of the prior art teachings. AS such, applicants arguments fail to comply with 37 CFR § 1.111(b) because they amount to a general allegation that the claims define a patentable invention.

Applicants further argue that the Office action failed to establish a teaching, motivation or suggestion for combining Mateeva et al. and Wu et al. in the manner claimed.

In response, it is noted that the motivation to combine the references of Mateeva et al. and Wu et al. was provided on pages 7, line 17 through 8, line 2 of the Office action mailed 02/03/2006. It is further reiterated from the 35 USC § 103(a) rejection of record that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to apply the methods and assays for establishing antisense activity for oligonucleotides, as taught by Mateeva et al., in combination with the artificial neural network system for rapid and accurate classification of RNA sequences, as taught by Wu et al., because Wu et al. further teaches that the major application of neural networks is the rapid sequence annotation and automated family assignment that is generally applicable to databases developed according to family relationships.

Applicants further argue there is no reasonable expectation of success and that the instant rejection is basically based on an argument that it would be obvious to try to obvious to experiment with neural networks to arrive a method for predicting efficacy of antisense oligonucleotides.

In response it is noted that Wu et al. indicates that the disclosed use of neural networks for phylogenetic classification provide a significant improvement of the use of known methods such as Fasta and Blast. For example, Wu et al., page 4298, col. 1, lines 20-22 states:

"The neural network method compares favorably, in terms of both accuracy and speed, to other methods currently available for phylogenetic classification of rRNA sequences."

Wu et al., page 4298, col. 1, lines 48-50 further states:

"The neural network classification accuracy is significantly better than that of the Blast or Fasta database search methods, probably due to the high degrees of similarities among rRNA sequences."

Further, Wu et al. specifically teaches that the result of direct comparison between Similarity Rank and neural network methods for phylogenetic classification should be interpreted with caution (see Wu et al., page 4298, col. 1, lines 37-47). However, this teaching does not indicate that the application of neural networks to phylogenetic studies cannot be successfully applied. One this point, Wu et al. (page 4298, lines 33-42) teaches that the disclosed methods have are generally applicable to elucidating such familial relationships:

"The neural network tool is generally applicable to any databases that are developed according to family relationships because neural network employs a "supervised" learning algorithm. The designs of the neural network system can be easily expanded to classify other nucleic acid sequences. Preliminary studies have been conducted to classify DNA sequences (containing both protein encoding regions and intervening sequences) directly into protein superfamilies with satisfactory results. It is, therefore, possible to develop a gene identification system that can classify indiscriminately sequences DNA fragments."